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임플란트 기반 유방 재건 후 초음파상 액체 저류는 미미하나 임상적으로 뚜렷한 유방 팽창: 피막 구축에 선행할 수 있는 초기 임상 징후

Early Postoperative Breast Distension with Minimal Ultrasonographic Fluid as a Potential Early Clinical Sign Preceding Capsular Contracture After Implant-Based Breast Reconstruction



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**Purpose:** Capsular contracture remains a common complication after implant-based breast reconstruction. We observed early postoperative breast distension without substantial peri-implant fluid on ultrasonography. This study aimed to describe this clinical-imaging discordance and evaluate its association with subsequent capsular contracture.

**Methods:** We retrospectively reviewed seven patients who developed clinically apparent breast distension 3–5 weeks after implant-based reconstruction. Demographics, reconstructive characteristics, ultrasonographic findings, and outcomes were analyzed. All patients received silicone implants with acellular dermal matrix. Ultrasonography was performed to evaluate peri-implant fluid collection and associated soft-tissue changes. Capsular contracture was diagnosed clinically and graded using the Baker classification when available.

**Results:** The mean age was 48.9 years (range, 31–63), and most cases were direct-to-implant reconstructions. Ultrasonography consistently demonstrated minimal peri-implant fluid insufficient to explain the degree of distension; some patients showed chest wall thickening or edematous changes. In two patients, ultrasound-guided aspiration yielded small fluid volumes (20–28 mL) disproportionate to the clinical swelling. No patient had clinical or laboratory evidence of infection, seroma, or hematoma. All patients subsequently developed clinically significant capsular contracture during follow-up.

**Conclusion:** Early postoperative breast distension with minimal ultrasonographic fluid may represent a preliminary clinical sign of capsular contracture. Recognition of this pattern may support closer surveillance, although larger prospective studies are needed to clarify its predictive value.

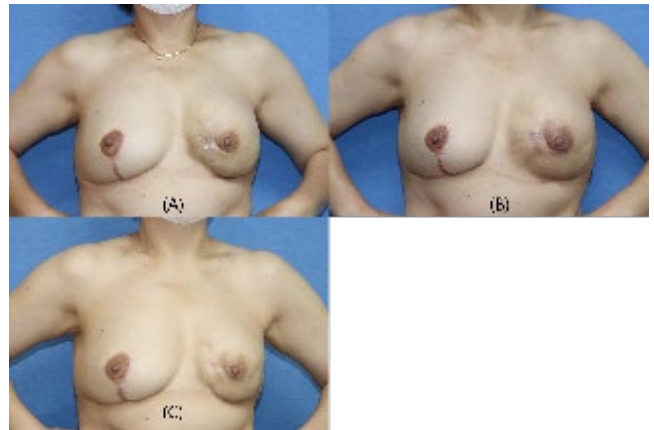


Figure 1. Serial clinical photographs of the left breast after implant-based breast reconstruction. (A) Postoperative 2 weeks. (B) Postoperative 5 months demonstrating clinically apparent breast distension. (C) Postoperative 1 year showing development of capsular contracture.

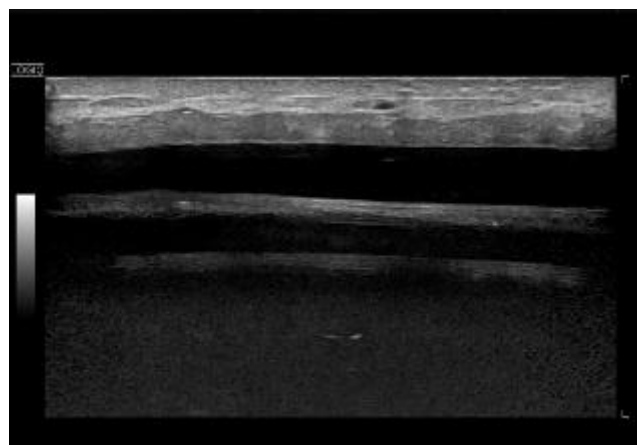


Figure 2. Radiologic findings before and after radiotherapy. (A) Pre-treatment contrast-enhanced CT showing a 5.7 × 4 cm enhancing mass with invasion of the medial extraconal orbital space. (B) Post-radiotherapy CT demonstrating significant tumor reduction and resolution of orbital invasion.

Table 1. Clinical characteristics of patients with early postoperative clinically apparent breast distension and minimal ultrasonographic fluid following implant-based breast reconstruction

case	Age	Reconstruction type	ADM use	Onset of distension	Baker grade	Ultrasonographic findings
1	41	DTI	MegaDerm ®	3 weeks	III	Chest wall thickening with edematous change; no drainable hematoma
2	63	DTI	AlloDerm™	5 weeks	III	Small peri-implant fluid collection, not drainable
3	31	Two-stage	MegaDerm ®	4 weeks	II	Small-volume fluid collection aspirated (28 mL), disproportionate to clinical distension
4	53	DTI	MegaDerm ®	3 weeks	III	Scant peri-implant fluid not amenable to aspiration
5	54	DTI	MegaDerm ®	5 weeks	III	Small peri-implant fluid collection, not amenable to aspiration
6	51	Two-stage	MegaDerm ®	7 weeks	III	Small peri-implant fluid collection, not amenable to aspiration
7	45	DTI	MegaDerm ®	4 weeks	II	Small peri-implant fluid collection, not amenable to aspiration
8	50	DTI	MegaDerm ®	4 weeks	III	Small peri-implant fluid collection, not drainable
9	42	DTI	PZB skin series B	2 weeks	III	Small peri-implant fluid collection, not drainable

DTI, direct-to-implant; ADM, acellular dermal matrix.

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